Reviewer's report

Title: Loss of heterozygosity and genomic dosage alteration of TRIM3 in malignant gliomas

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Reviewer: Steffi Urbschat

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Boulay et al. examine TRIM3 by STS-and SNP-based LOH analysis in 47 Glioblastomas, 13 Astrocytomas, 10 Oligodendrogliomas. They found loss of allelic heterozygosity at 11p15.5 in 17 cases and defines a 130 kb-wide interval within the TRIM3 locus as a minimal area of loss. In conclusion the authors signified TRIM3 as a brain tumor suppressor gene.

The main conclusion, if supported by the data, would be novel. However, some revisions should be done:

Major Compulsory Revisions

1. The sample size is quite limited and the selection is not to reconstruct. They authors need to add the important information about the WHO-grade of the investigated Oligodendrogliomas and Astrocytomas! If different tumor entities were used, as in this work, the differences have to be discussed (with an evidence of the small sample size).

2. The main conclusion “Loss of heterozygosity and genomic dosage alteration in malignant gliomas signify TRIM3 as a brain tumor suppressor gene” is named redundant, in exactly the same sentences. For example: Abstract: last sentence, Background: last sentence, Results: page 9, last sentence of the first paragraph and of course in the Conclusions, where it belongs to, also in the Abstract, but not in the Background-chapter and in my view also not in Results. However, this main conclusion should be revised linguistically and the statement should be worded more carefully, due to the available data.

3. The Background about “malignant gliomas” is poor and about survival times and the current therapy regimen not up-to-date. In the last paragraph the authors document the data already. This is neither common nor meaningful.

4. Methods, first paragraph: in which form “micro-dissection” would be used? This chapter is very comprehensive and could be shortened, apart from “biopsies and DNA extraction”, particularly a more specific tumor sample description is missing (WHO-grade, clinical data). The WHO-grade of selected tumors were only mentioned in the Figures.

5. Results, first paragraph showed that the acquired data are very heterogenous, as expected in gliomas, but this should be receive attention.

6. Discussion, page 12: Number of the investigated GBMs is unclear (54?),
comparing for example page 5! The own data should be more discussed, like tumor entities, limitations of the small sample size..., as already mentioned above.

7. In Conclusions the novel findings should be pointed out, but further investigations to underline the data should be suggested.

Minor Essential Revisions:
Page 8: “This area also contains.....by this region (Fig. 1).” This is unclear and needs refinement.
Page 11: last paragraph, “....a recent LOH study....”. This study is from 2001!